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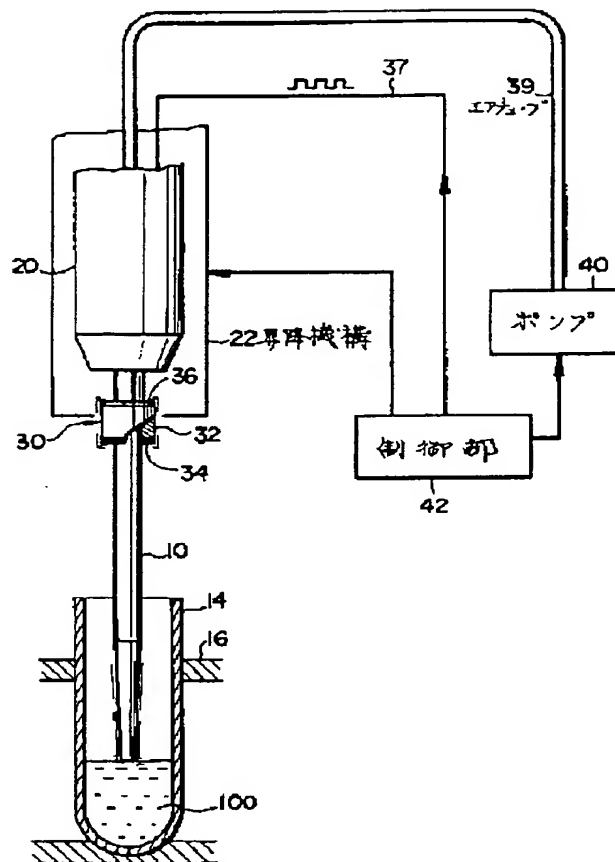
APPLICATION DATE : 13-07-98
APPLICATION NUMBER : 10196892

APPLICANT : ALOKA CO LTD;

INVENTOR : KITAO YOSHIYUKI;

INT.CL. : G01N 35/10

TITLE : DISPENSER



ABSTRACT : PROBLEM TO BE SOLVED: To remove the liquid bonded to the outer surface or leading end of a nozzle in a dispenser and to smoothly suck or discharge a liquid of high viscosity.

SOLUTION: An ultrasonic vibrator 30 is provided to a nozzle 10 to be driven with a predetermined timing. For example, if the nozzle 10 is vibrated after a liquid is sucked or before the liquid is discharged, the liquid bonded to the leading end or outer surface of the nozzle 10 can be shaken off. If the nozzle 10 is vibrated during suction and discharge, there is a beneficial point in that a liquid especially high in viscosity can be smoothly sucked or discharged. Furthermore, if the nozzle 10 is vibrated at the washing of the nozzle 10, there is a benefit in that the cleaning effect is enhanced.

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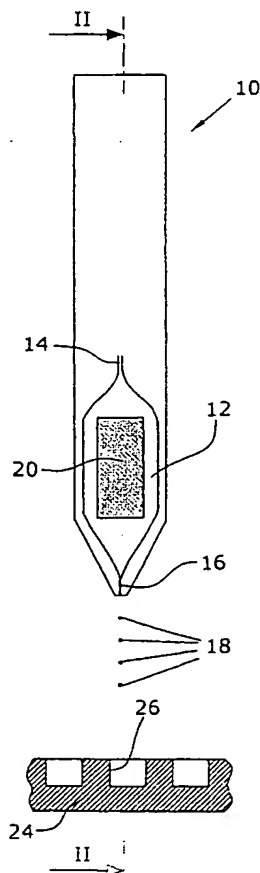
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(81) Bestimmungsstaaten (soweit nicht anders angegeben, für
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MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

[Fortsetzung auf der nächsten Seite]

(54) Title: DISPENSING METHOD

(54) Bezeichnung: DISPENSIERVERFAHREN



(57) Abstract: The invention relates to a method for cleaning a fluid supply device (10), such as a dispensing or pipetting device, whereby a flushing of the fluid chamber (12) can occur in a cleaning step (R). According to the invention, in order to remove gas bubbles in the fluid chamber for example, the fluid in the fluid chamber (12) is set in vibration during the cleaning step (R).

(57) Zusammenfassung: Bei einem Verfahren zum Reinigen einer Flüssigkeitsfördervorrichtung (10), wie einer Dispensier- oder Pipettier Vorrichtung, kann in einem Reinigungsschritt (R) ein Spülen der Flüssigkeitskammer (12) erfolgen. Um in der Flüssigkeitskammer beispielsweise vorhandene Gasblasen zu entfernen, wird die in der Flüssigkeitskammer (12) vorhandene Flüssigkeit erfindungsgemäß während des Reinigungsschrittes (R) in Schwingungen versetzt.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/000823

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01L3/02 G01N35/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01L G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/016177 A1 (MEYER WILHELM ET AL) 23 August 2001 (2001-08-23) paragraph '0049! - paragraph '0055!	1-7
A	DE 36 14 960 A (SCHULZ PETER) 5 November 1987 (1987-11-05) column 3, line 44 -column 4, line 66	1
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 04, 31 August 2000 (2000-08-31) & JP 2000 028623 A (ALOKA CO LTD), 28 January 2000 (2000-01-28) abstract	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

3 May 2004

Date of mailing of the international search report

18/05/2004

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Pipette

Patent number: DE3614960
Publication date: 1987-11-05
Inventor: SCHULZ PETER DR MED (DE)
Applicant: SCHULZ PETER
Classification:
- international: **G01N35/10; G01N35/10;** (IPC1-7): B01L3/02; B06B1/06;
G01N1/10; G01N35/00
- european: G01N35/10B
Application number: DE19863614960 19860502
Priority number(s): DE19863614960 19860502

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Abstract of **DE3614960**

The invention relates to a pipette, in particular for an arrangement for the automatic analysis of liquids, having a pipette tube. In this case, the pipette tube cooperates with a high-frequency vibration generator, in particular during its cleaning step.

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